

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001248**Date Inspected:** 17-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Lefeng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Mock-up**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Item Description	WBS	Dwg No.	Status
1 ZPMC UT examination at the connection corner splices (2) SA-42 subassemblies			
The QA inspector witnessed ZPMC approved ultrasonic testing (UT) technicians Li Li Ming and Xue Hai Rong performing UT verifications on the SA-42 subassemblies for the Tower Mock-up 89M at the corner weld joints # 3 and 4 scanning from sides A and B.			
The QA inspector observed that ZPMC UT verifications appeared to be in accordance with the contract documents. However, the QA inspector observed that ZPMC scanned 24 dB over the reference amplitude level in lieu of 35 dB when scanning with 70 degrees transducer as required by AWS D1.5-2002(The QA inspectors had informed this issue to ABF representatives in numerous occasions).			
2. ZPMC was not scanning far enough with 70 degrees transducer to evaluate the bottom quarter of the weld (The QA inspector mentioned to Mr. Li Li Ming and ZPMC performed additional rescanning).			
ZPMC found that welds were in compliance with the contract documents.			

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- 2 ZPMC UT verification to the connections between W shapes on the OBG
The QA inspector observed that ZPMC UT technician Li Li Ming and Xue Hui Rong performing UT verifications at the connection between W21x57 at the weld joints # SP-011-01-008, SP-025-01-025, SP-017-01-026, SP017-01-008, SP017-01-042 and SP-17-01-010. ZPMC representative accepted the weld splices at the joints # mentioned above.
- 3 Tower Mock-up 89 M Skin E to doubler plate Unqualified Welders
ZPMC re-started welding operations with qualified welders at the junction of the skin E to the doubler plate subassembly SA-215 after welding filler passes with unqualified welders. ZPMC approved qualified welders welding on this date were listed as follows: Du Heng Hua, Identification (ID)# 037779; Ge Hong Qi, ID # 037780; Ton Xiang Bo, ID # 066459 and Fu Yan Jie, ID # 066268. ZPMC representative Shen Xue Jun said that the production supervisors directed to proceed welding the skin E with welders that were qualified in the 2G position without the authorization of the ZPMC's QC department. Mr. Shen added that ZPMC's QC department was reviewing the no compliance condition and they were considering remove the filler passes welded by unqualified welders before the welding restart. The QA inspector had a conversation with ABF representative Kevin Dye. Mr. Dye asked the QA inspector for the list of unqualified welders welding on Sunday 12/16/2007 at skin E. Later, ABF representative agreed that those welders were unqualified.
- 4 Skin D Tower Mock-up 89 M Cracks
ZPMC representative Li Xiu Yang informed the QA inspector that ZPMC found cracks on the tack welds at the junction of the plate p917 to MA22, p871 to p535A, p917 to p536A. Mr. Li relayed that ZPMC would remove the cracks on the tack welds by grinding.
- 5 Skin A Visual examination Tower Mock-up 89 M.
The QA inspector performed visual examination to the skin A after ZPMC completed the weld repairs on areas marked by Caltrans representative Paul Stoval on 12/16/2007. The QA inspector found that the repair areas appeared to be in accordance with the contract documents.
- 6 Shear Links Welding Tower Mock-up 89 M
ZPMC welded the Shear link MA-25 no in accordance with the ZPMC's fabrication procedure for the Tower Mock-up 89 Meters elevation. ZPMC fabrication procedure step # 2, sheet # MUB-26 specify two shear links being welded at the same time. The photograph below shows ZPMC welding only one shear link.
This deviation had been noted on the ZPMC's fabrication procedure.

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Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
